

SEMICONDUCTOR DEVICE WITH GOLD BUMPS, AND  
METHOD AND APPARATUS OF PRODUCING THE SAME

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ABSTRACT OF THE DISCLOSURE

10 A semiconductor device comprises a semiconductor  
element having electrodes and metal bumps are attached to  
the electrodes. The metal bumps include copper cores and  
gold surface layers covering the cores. In addition, the  
metal bumps may include gold bump elements and solder  
bump elements connected together.

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